KURSANOV, A.L.; KRYUKOVA, N.N.; PUSHKAREVA, M.I.

Dark fixation and liberation of carbon dioxide supplied to the plant through its roots. Doklady Akad. Nauk S.S.S.R. 88, 937-40 '53.(MLRA 6:2) (CA 47 no.16:8195 '53)

1. A.N.Bakh Inst. Biochem., Acad. Sci. U.S.S.R., Moscow.

KURSANOV, A. L.

(4)

The use of the isotope method in the study of movement of sugars in plants. A. L. Kursanov, M. V. Turkina, and I. M. Dubinina (K. A. Timiryazev Inst. Plant Physiol., Acad. Sci. U.S.S.R., Moscow). *Doklady Akad. Nauk S.S.S.R.* 93, 1115–18(1953).—C^{14}-tracer method was employed in following movements of sugars in the sugar beet under various conditions. It was shown that in the fall there is a removal of sugars from the leaves during the 1st part of a day, followed by accumulation during the evening and night period, which could be ascribed only to phys. movement from the roots and stems. The total carbohydrates in the fibrillar conducting regions remained substantially const. Labeled sucrose (produced by administration of $C^{14}O_2$ to other sugar-beet plants) was infiltrated into test plants for the studies which showed that within 5 min. the labeled sugar reaches the upper parts of the plant and the steams of leaves, within 15 min. it reaches the tips. The movement occurs entirely through the conducting vessels. The periodicity of movement noted above is most pronounced in the period of active growth of the root.

G. M. Kosolapoff

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
Biological Chemistry

B.T.R., Vol. 3, No. 4, Apr. 1954

KURSANOV, A L

N/5
632.3
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Mechenyye atomy v razbrabotke nauchnykh osnov pitaniya rasteniy (Marked Atoms in the Development of Scientific Principles of Plant Nutrition) Moskva, Izd-vo Akademii Nauk SSSR, 1954.
29 p. illus,, diagrs. (Akademiya Nauk SSSR. Nauchno-populyarnaya seriya)

KURSANOV, A.L., akademik

[Physiology of plants and its role in the development of plant culture] Fiziologiia rastenii i ee rol' v razvitii rastenievodstva. Moskva, Izd-vo "Znanie," 1954. 30 p. (MLRA 7:6)
(Botany--Physiology)

Chemical Abstracts
May 25, 1954
Biological Chemistry

The significance of isotopes and other new methods of investigation in biology for the solution of problems of agriculture. A. L. Kursanov. *Izvest. Akad. Nauk S.S.S.R., Ser. Biol.* 1954, No. 1, 3-19.—Review, without bibliography, of the types of problems that have been approached in recent years by U.S.S.R. scientists by the use of isotopes (P^{32}, C^{14}, O^{18}) in the realm of physiology of plants.
G. M. Kosolapoff

KURSANOV, A.L.; TUYKVA, O.F.; VERESHCHAGIN, A.G.

Carbohydrate and phosphorus metabolism and the synthesis of amino acids in the roots of the pumpkin. (Curcurbita pepo). Fiziol.rast. 1 no.1:12-20 S-O '54. (MLRA 8:10)

1. Institut fiziologii rasteniy imeni K.A.Timiryazeva Akademii nauk SSSR, Moscow.
(Plants--Metabolism) (Pumpkin) (Roots (Botany))

KURSANOV, A. L.

KURSANOV, A.L.; VYSKREBENTSEVA, F.I.

Translocation of photosynthetic products from the leaves and walls of cotton bolls into the developing fibers. Fiziol. rast. 1 no.2:156-163 N-D '54. (MLRA 8:10)

1. Institut fiziologii rasteniy imeni K.A.Timiryazeva Akademii nauk SSSR, Moscow
(Cotton) (Botany--Physiology)

KURSANOV, A.L. (Moskva)

Biological synthesis of disaccharides. Usp.biol.khim. 2:220-255 '54.
(MIRA 12:12)

(DISACCHARIDES, metabolism,
biosynthesis)

KURSANOV, A.L., akademik; KLESHNIN, A.F., kandidat biologicheskikh nauk.

Marked atoms in the study of plant life. Est. v shkole no.4:12-16 Jl-Ag '54. (MLRA 7:8)

1. Institut fiziologii rasteniy imeni K.A.Timiryazeva.
(Botany--Physiology) (Radioactive tracers)

KURSANOV, A.L.

OPARIN, A.I., akademik; TSITSIN, N.V., akademik; KHRUSHCHOV, G.K.; ANICHKOV, N.N., akademik; BYKOV, K.M., akademik; KURSANOV, A.L.; LYSENKO, T.D.; TYURIN, I.V.; NUZHDIN, N.I.; IVANOV-SMOLENSKIY, A.G.; STUDITSKIY, A.N., professor; DOZORTSEVA, R.L., kandidat biologicheskikh nauk.

Greetings to Academician E.N.Pavlovskii. Zool.zhur. 33 no.2:241-242 Mr-Ap '54. (MLRA 7:5)

1. Akademik-sekretar' Otdeleniya biologicheskikh nauk Akademii nauk SSSR (for Oparin). 2. Zamestiteli akademika-sekretarya Otdeleniya biologicheskikh nauk (for TSitsin and Khrushchov). 3. Chlen-korrespondent Akademii nauk SSSR (for Khrushchov and Nuzhdin). 4. Chleny Byuro (Anichkov, Bykov, Kursanov, Lysenko, Tyurin, Nuzhdin, Ivanov-Smolenskiy, Studitskiy). 5. Deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR (for Ivanov-Smolenskiy). 6. Uchenyy sekretar' Otdeleniya biologicheskikh nauk Akademii nauk SSSR (for Dozortseva).
(Pavlovskii, Evgenii Nikanorovich, 1884-)

Kursanov, A.L.

USSR

✓ Synthesis and accumulation of sucrose in sugar beets. A. L. Kursanov. *Botan. Zhur.* 39, 483-701(1954). A critical review of the subject is given. The process of accumulation of sucrose in the root is interpreted in the light of findings since the publication of his papers. He concludes that the leaves are the location of sucrose synthesis in sugar beets. It is formed as the first free sugar during the photosynthetic processes as well as by secondary synthesis from glucose and fructose. From the leaves the sucrose is rapidly removed into the shortened stem and root which by themselves are practically devoid of the capacity to synthesize sucrose from the simple sugars. 23 references. J. S. Joffe

KURSANOV, A. L.

USSR/ Agriculture Plant physiology

Card : 1/3

Authors : Kursanov, A. L., Academician

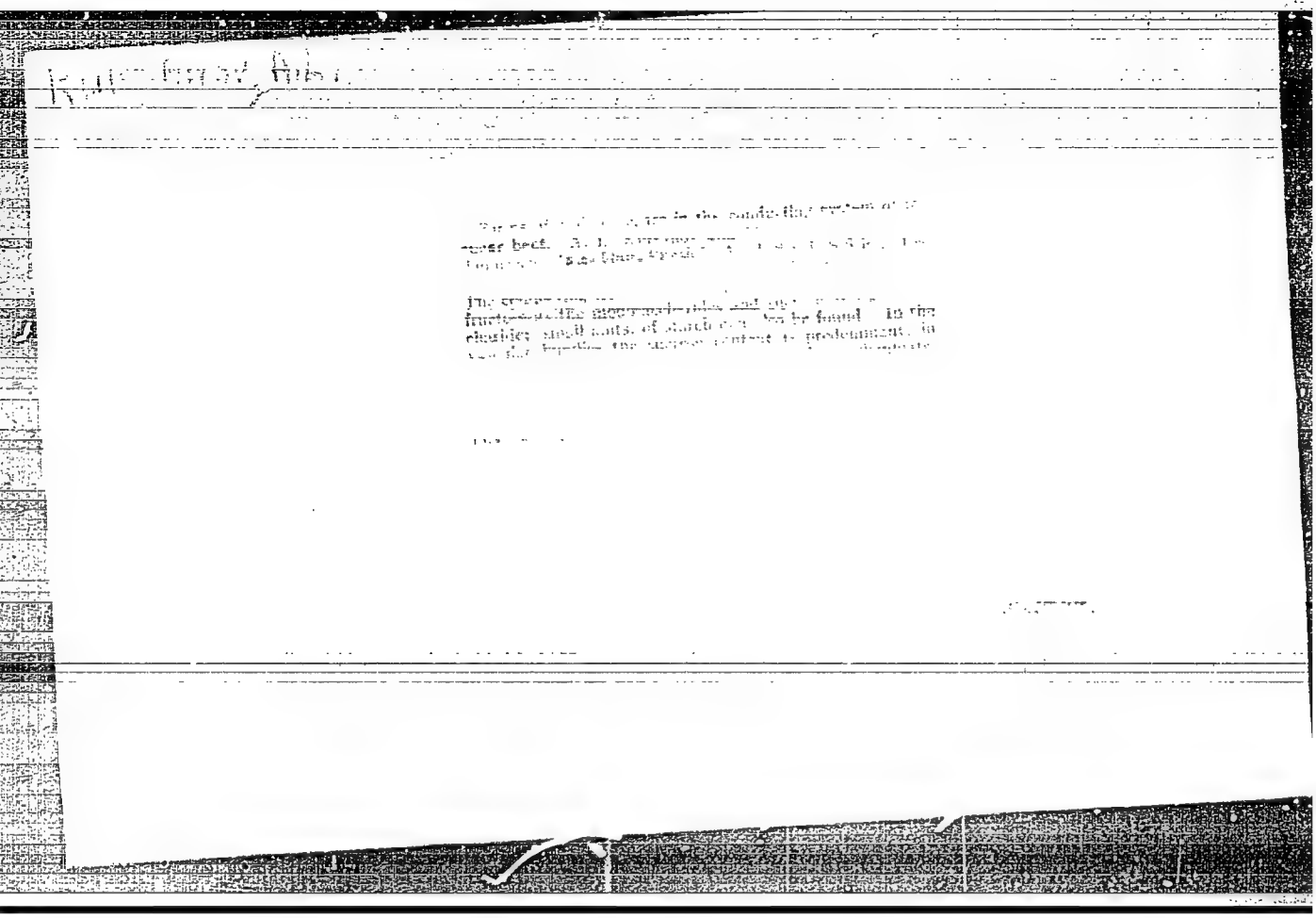
Title : The physiology of plants and its role in the development of plant culture

Periodical : Priroda, 43/7, 21 - 34, July 1954

Abstract : The article calls attention to the Government's demand for increasing agricultural production, relates what has been done in the way of research in plant physiology and gives some technical information. Drawings; illustrations.

Institution : ....

Submitted : ....



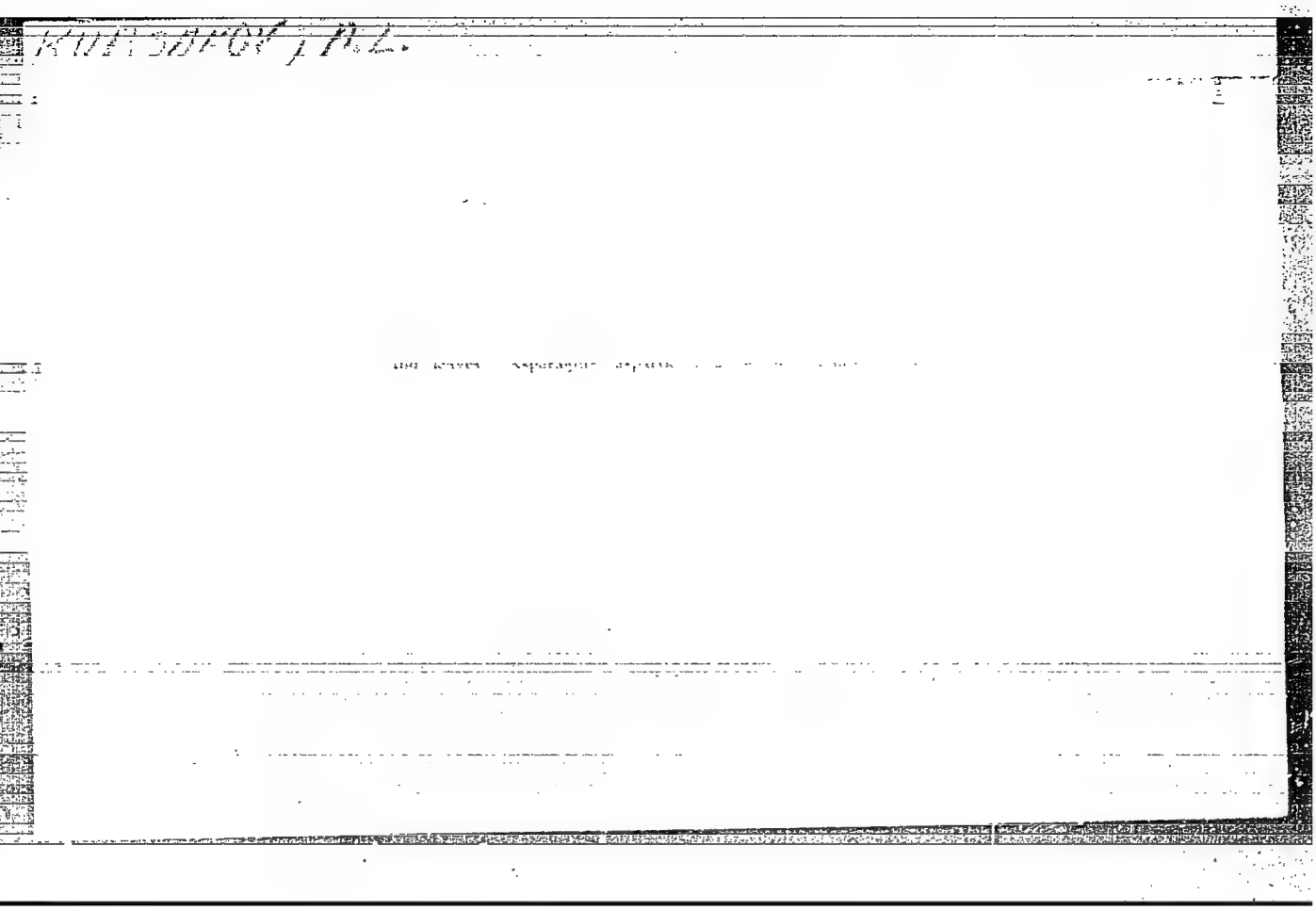
KURSANOV, A. L.

"The Utilization of Radioactive Isotopes in Biology and Agriculture in the USSR," a paper presented at the Atoms for Peace Conference, Geneva, Switzerland, 1955.

"Analysis of the Movement of Substances in Plants by Means of Radioactive Isotopes," ibid.

PRYANISHNIKOV, Dmitriy Nikolayevich , 1865-1948; KURSANOV, A.L., akademik, redaktor; ZHITOV, S.P., redaktor; AUZAN, N.P., tekhnicheskiy redaktor.

[Selected works] Izbrannye sochineniia. Moskva, Izd-vo Akademii nauk SSSR, Vol.4, 1955. 596 p. (MLRA 8:12)
(Agricultural chemistry)



KURSANOV, A.L.

"Biochemistry of metabolism." N.M.Sisakian. Reviewed by A.L.Kursanov. Fizio'.rast.2 no.3:311 My-Je '55. (MLRA 8:11)
(Metabolism) (Sisakian, N.M.)

Kursanov, A. L.

Industrial preparation of vitamin P from tea leaves. N. I. Kursanov and M. N. Zaprometov (Inst. Plant Physiol., Acad. Sci. U.S.S.R., Moscow). Zavod. Laboratoriya, Akad. Nauk S.S.S.R. 2, 357-9(1933).—A review with 21 references. G. M. Kondratieff (1)

KURSANOV, A.L.

Plant assimilation of carbon dioxide through the root system. Trudy Inst. fiziol.rast. 10:150-155 '55. (MLRA 8:9)

1. Institut fiziologii rastemiy im. K.A. Timiryazeva Akademii nauk SSSR.
(Plants--Assimilation)

KURSANOV, A.L.

KURSANOV, A.L., akademik.

The limits of human knowledge are being broadened. Nauka i zhizn' 22 no.4:17 Ap '55. (MLRA 8:6)
(Atomic energy research)

KURSANOV, A.L., akademik; SISAKYAN, N.M.

The 8th international botanical congress. Vest. AN SSSR 25 no.4:57-65 Ap '55. (MLRA 8:7)

1. Chlen-korrespondent AN SSSR (for Sisakyan)
(Paris--Botany--Congresses)

KURSANOV, A.L.: akademik

Powerful method of perception. Znan.sila 30 no.8:1-4 Ag'55. (MLRA 8:11)
(Radioactive tracers)

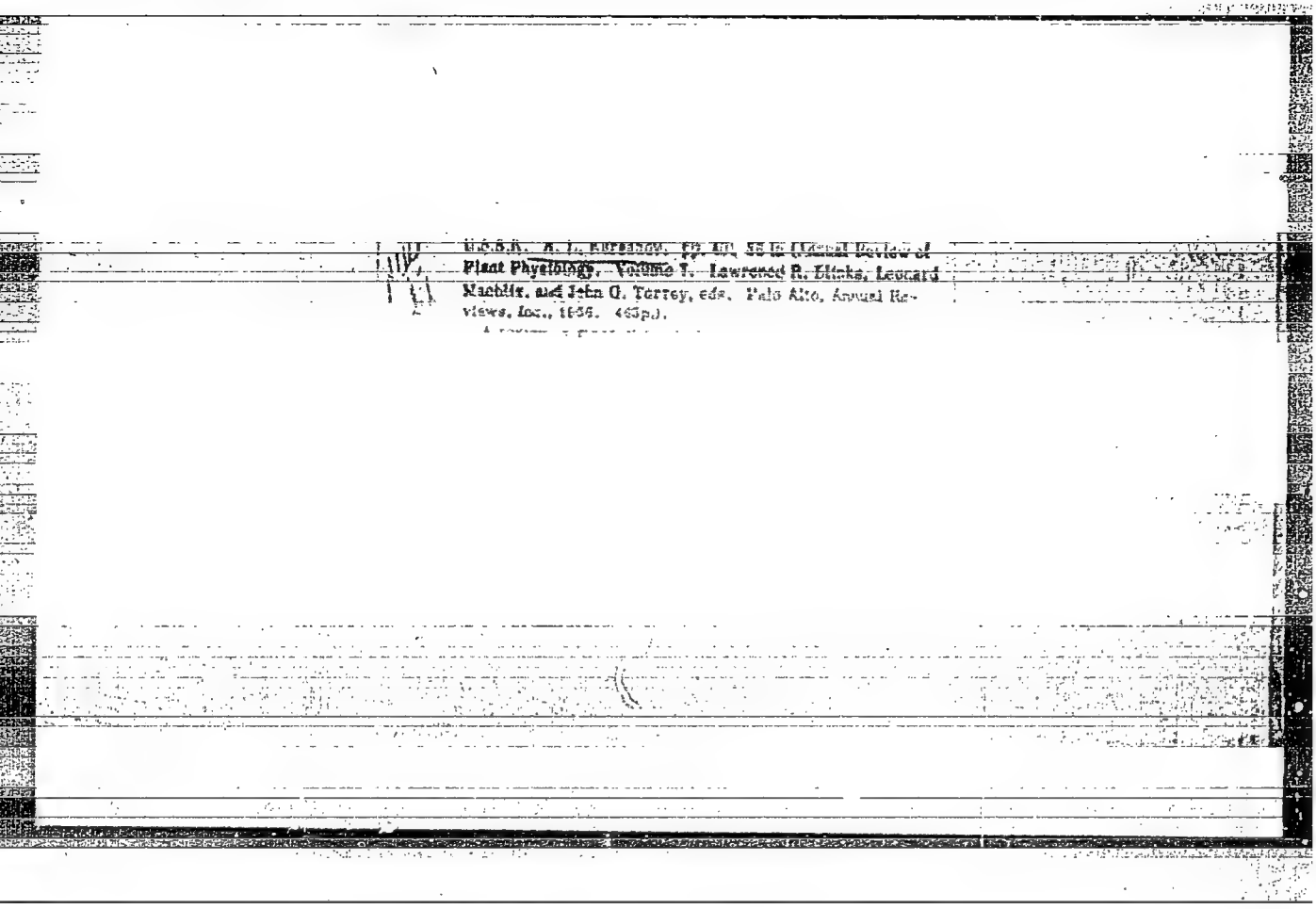
KURSANOV, A.L.

Participation of oxygen of water and atmospheric oxygen in plant respiration. B. B. Vartapetyan and A. L. Kursanov. *Doklady Akad. Nauk S.S.S.R.* 104, 272-5(1955).—Expts. with etiolated wheat sprouts using H_2O^{18}-labeled water and O_2^{18}-enriched O_2 showed clearly that the source of O in respiration CO_2 in plants is the O content of the water. The mol. O taken in during respiration does not enter the carbohydrate of the respiratory substrate but is utilized for synthesis of H_2O in plant tissues. G. M. Kessler

(1)

NICHIPOROVICH, Anatoliy Aleksandrovich; KURSANOV, A.L., akademik, otvetstvennyy redaktor; SAMYGIN, Yu.A., redaktor izdatel'stva; ZEMLYAKOVA, T.A., tekhnicheskiy redaktor

[Photosynthesis and a theory of high crop yields] Fotosintez i teoriia polucheniia vysokikh urozhaev. Dolozheno na Piatnadtsatom ezhegodnom Timiriazevskom chtenii 4 iiunia 1954 g. Moskva, Izd-vo Akademii nauk SSSR, 1956. 92 p. (Timiriazevskie chteniia, 15) (MLRA 10:1)
(Photosynthesis)



U.S.S.R. A. L. Kursanov, [illegible] Review of Plant Physiology. Volume I. Lawrence R. Blinks, Leonard Machlis, and John G. Torrey, eds. Palo Alto, Annual Reviews, Inc., 1956. 465p.).

KURSANOV, A.L.

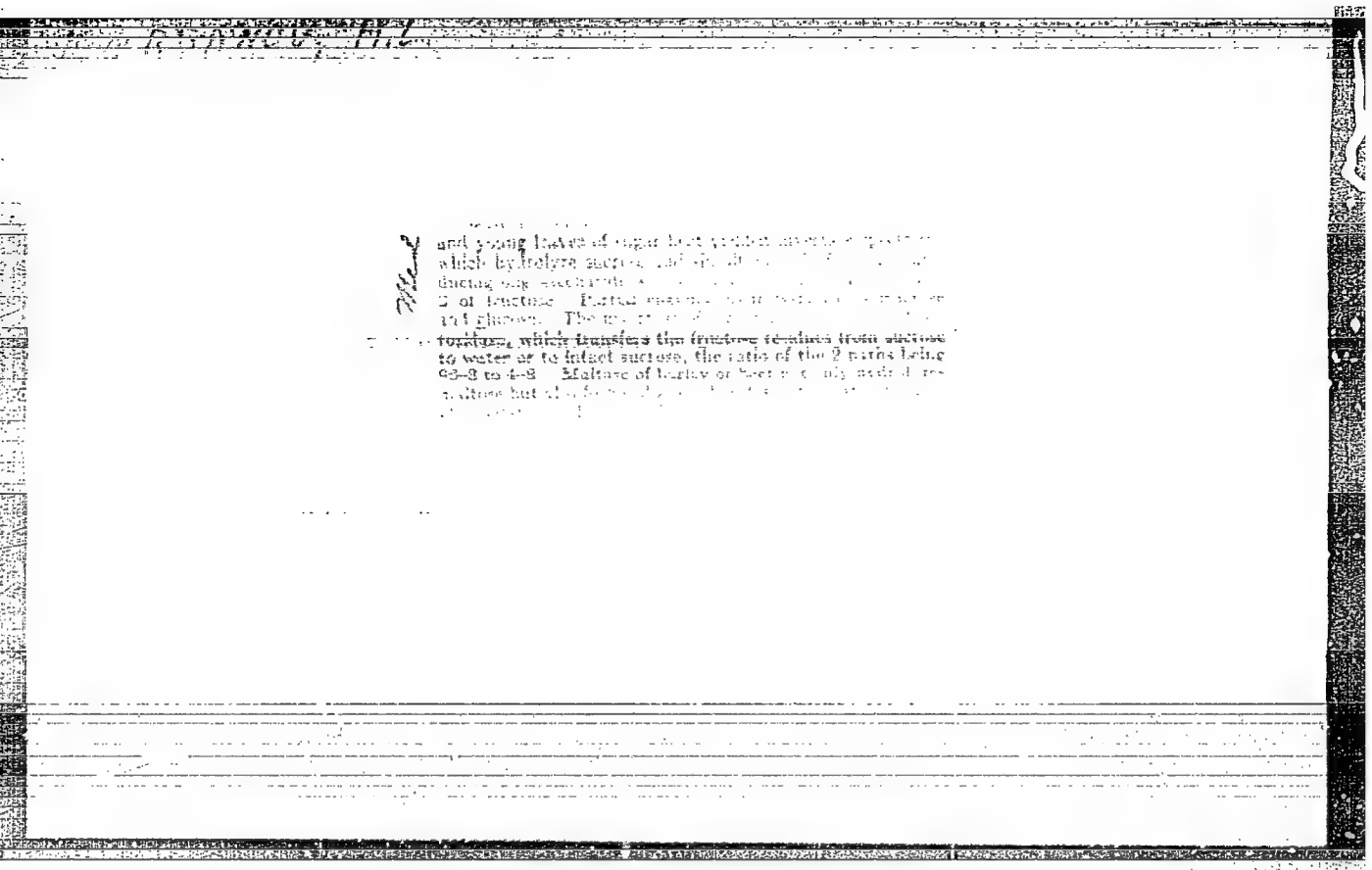
Plant physiology in Great Britain. Fiziol.rast. 3 no.2:179-183 Mr-Ap '56. (MLRA 9:7)

1.Institut fiziologii rasteniy imeni K.A.Timiryazeva Akademii nauk SSSR, Moskva.
(Great Britain--Botany--Physiology)

KURSANOV, A.L.; VARTAPETIAN, B.B.

The physiological role of chlorophyll in tomato fruits [with English summary in insert. Fiziol.rast. 3 no.3:214-224 My-Je 1956 (MLRA 9:9)

1.Institut fiziologii rasteniy imeni K.A.Timiryazeva i Institut biokhimii imeni A.N.Bakha Akademii nauk SSSR, Moskva.
(Chlorophyl) (Tomatoes) (Photosynthesis)



and young leaves of sugar beet yielded [illegible] which hydrolyze sucrose [illegible] during [illegible] 2 of fructose. Partial [illegible] and glucose. The [illegible] ~~fructan, which transfers the fructose residues from sucrose to water or to intact sucrose, the ratio of the 2 sugars being 3–3 to 4–3.~~ Mixture of barley or [illegible] residues but [illegible]

KURSANOV, A. L.

"The Utilization of Radioactive Isotopes in Biology and Agriculture in the USSR," Science and Culture, Vol. 21, No. 9, March 1956.

KURSANOV, A.L., akademik.

Radioactive elements and the study of plant life. Nauka i zhizn' 23 no.1:15-20 Ja '56. (MLRA 9:4)
(Radioactive tracers) (Botany--Physiology)

KURSANOV, A.L., akademik.

Work of a laboratory supervisor. Vest. AN SSSR 26 no.9:41-45 S '56. (MLRA 9:11)
(Laboratories)

KURSANOV A.L.

RAKITIN, Yuriy Vladimirovich; KURSANOV, A.L., akademik, otvetstvennyy red.; TERENT'YEVA, M.I., red.izd-va; POLESITSKAYA, S.M., tekhn.red.

[Controlling preharvest dropping of apples and pears] U men'shenie preduborochnogo opadeniia plodov u iabloni i grushi. Moskva, Izd-vo Akad.nauk SSSR, 1957. 19 p. (MIRA 11:3)
(Apple) (Pear)

RAKITIN, Yuriy Vladimirovich; OVCHAROV, Konstantin Yefremovich; KURSANOV, A.L., akademik, otvetstvennyy red.; TERENT'YEVA, M.I., red.izd-va; POLESITSKAYA, S.M., tekhnicheskiy red.

[Growth promoting substances and herbicides in cotton growing] Stimuliatory i gerbitsidy v khlopkovodstve. Moskva, Izd-vo Akad. nauk SSSR, 1957. 146 p. (MIRA 11:3)
(Cotton growing)
(Growth promoting substances)
(Herbicides)

KURSANOV, A.L., akademik, otvetstvennyy redaktor; TUMANOV, I.I., otvetstvennyy redaktor; GENKEL', P.A., professor, otvetstvennyy redaktor; BRITIKOV, Ye.A., redaktor izdatel'stva; ZELENKOVA, Ye.V., tekhnicheskiy redaktor

[In memory of Academician N.A.Maksimov; a collection of articles] Pamiati akademika N.A.Maksimova; sbornik statei. Moskva, 1957. 323 p. (MLRA 10:10)

1. Chlen-korrespondent Akademii nauk SSSR (for Tumanov)
(Botany--Physiology)

[redacted], A. I.

"The root system as the organ of metabolism," a paper submitted at the International Conference on Radioisotopes in Scientific Research, Paris, 9-20 Sep 57.

KURSANOV, A. L.

USSR/Plant Physiology - Respiration and Metabolism. I.

Abs Jour : Ref Zhur - Biol., No 21, 1958, 95627

Author : Kursanov, A.L., Kulayeva, O.N.
Inst : -
Title : Metabolism of Organic Acids in the Roots of Cucurbita L.

Orig Pub : Fiziol. rasteniy, 1957, 4, No 4, 322-331

Abstract : In an ether extract of the roots and in the lymph of young plants of the Mozoleyevskaya variety of Cucurbita L., which were raised in a full nutrient mixture and in solutions without P, the organic acids and ketoacids were determined by paper chromatography. Root fixation of CO_2 was studied by means of calculating the radioactivity of an alcohol extract after absorption of carbonate by the roots (0.005 n. of $NaHC^{14}O_3$ with activity of 20 μcuries in 300 ml). The radioactivity of each separate organic acid was determined after their chromatographic division. On the basis of the results obtained, the authors conclude that the

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Abs Jour : Ref Zhur - Biol., No 21, 1958, 95627

essential role in root metabolism belongs to pyroracemic acid and to the cycle of di- and tricarboxylic aicds, functioning on the basis of it , the transformation of which acids is accompanied by dark fixation of CO_2. Lack of P suppressed the carboxylic reaction and transformation of acids according to the Krebs cycle. In addition, the formation of glyoxalic and other acids in the roots were strengthened. Accumulation of citric acid with phosphorous starvation was not accompanied by the introduction of $C^{14}O_2$ into it. In the opinion of the authors, during the inhibition of acidifying decomposition of carbons according to the basic system (Krebs cycle in Cucurbita L.), the plant compensates for it by other acidifying processes. Feeding the starving plants with P quickly changes the composition of the organic acids to normal. Composition of organic acids in the roots and lymph was repeated, : which points to the transfer of the acids synthesized by

Abs Jour : Ref Zhur - Biol., No 21, 1958, 95627

the roots into the organs above ground. The work was carried out at the Institute of Plant Physiology AS USSR. Bibliography, 53 titles. -- N.P. Karobleva

USSR/Plant Physiology. Respiration and Metabolism I-2

Abs Jour : Ref Zhur - Biol., No 19, 1958, No 86614

Author : Kursanov A.L.
Inst : Institute of Plant Physiology, AS USSR
Title : Descending Current of Assimilants and Its Relationship to the Absorbing Activity of the Root.

Orig Pub : Fiziol. Rasteniy, 4, No 5, 417-424, 1957

Abstract : In 22-day squash plants grown in a soil culture of an aqueous culture, the third or fourth leaves from the bottom were exposed to diffused light in an atmosphere with $C^{14}O_2$. After 40-240 minutes this was followed by dismembering the plants, fixation at 80°C and extraction at 70°C with ethyl alcohol. During 40-120 minutes, 18-48 percent of the metabolites flowing away from the leaf entered into the roots of the plant. In 50-day plants the movement of metabolites toward the roots declined and halted during the daylight and intensified during the night. The separation of the substances flowing away from the leaf by means of anionite PE-9 and cationite

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Abs Jour : Ref Zhur - Biol., No 19, 1958, No 86614

SDV-3 made it possible to establish that the ascending current contains, during the first 20 minutes, about 20 percent, and during 80 minutes, 13 percent of organic acids and amino acids, whereas in the descending current there initially form only sufats and , after 80 minutes, only 8 percent substances of an ionic character. After 80 minutes, 33 percent of the assimilants reaching the roots became transformed into substances arrested in the anionite. The absence of mineral nutrition was found to entail a reduction in the influx of metabolites into the roots and in the rate of their metabolism. The placement of the roots of plants starved for 48 hours in a 0.0015 M solution of NH_4NO_3 for a period of 60 minutes resulted in a tripled-quadrupled increase in the influx of metabolites to these roots. Study of the juice after a two-hour flow of metabolites into the roots showed that in the course of 76 hours ~40 percent of C^{14} returned to the above-ground organs at a rate that was at its maximum

during the first 6-10 hours. It was concluded that in the plants there is present a circulation of organic substances (from the leaves to the roots and partly back into the shoots). The entire study was executed in the Institute of Plant Physiology, AS USSR. Bibliography of 15 titles. --B.Ye. Kravtsova.

USSR / Plant Physiology. Mineral Nutrition. I-2

Abs Jour : Ref Zhur - Bio., No 22, 1958, No 99925

Author : Kulayeva, O. N.; Silina, Ye. I.; and Kuraanov, A. L.
Inst : Institute of Plant Physiology, AS USSR
Title : Ways of Primary Assimilation of Ammoniacal Nitrogen in the Roots of Pumpkin.

Orig Pub : Fiziol. Rastoniy, 4, No 6, 520-528, 1957

Abstract : In the Institute of Physiology, Academy of Sciences USSR, plants were grown in aqueous cultures on complete nutrient mixture, nutrient mixture without P at the beginning of experiment but with a short-time P nutrition at the end of the experiment, and nutrient mixture without P throughout the whole experiment. The method of chromatography of paper was used to investigate the composition of free amino acids in the roots and juice of pumpkin. Upon feeding of plants

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USSR / Plant Physiology. Mineral Nutrition. I-2

Abs Jour : Ref Zhur - Biol., No 22, 1958, No 99925

with $NaHC^{14}O_3$ through roots, C^{14} was detected in the composition of root amino acids, which indicates the synthesis of these acids directly in the roots. In the roots there predominated alanine, γ-aminobutyric acid, and glutamine; altogether, 13 amino acids were detected. The amino acid composition of the roots is similar to that of the juice. The principal transport forms of NH_2 groups in the pumpkin were found to be alanine, glutamine, and γ-aminobutyric acid. The phosphorus starvation caused an acute derangement of the nitrogen metabolism in the roots of pumpkin - there occurred a decrease in the assimilation of ammoniacal N by the roots, synthesis of a number of amino acids, and protein formation, and there appeared unidentified substances with guanidine grouping and allantoin, i. e., compounds with a high content of N in the molecule, the accumulation of which is not characteristic of the normal metabolism in the pumpkin. Short-time phosphorus feeding reestablished normalcy in the plants. Bibl., 19 titles. -- G. V. Udovenko.

Card 2/2

9

USSR / Plant Physiology. Respiration and Metabolism.

ABS. JOUR. : Ref Zhur - Biologiya, No. 4, 1959,

AU[illegible]

[illegible]tom at work; discussion with Academician I.V. Kurchatov. Priroda
no.7:29-33 Jl '57. (MLRA 10:8)
(Radioactive tracers)

KURSANOV, A.L.; KRYUKOVA, N.N.

Effect of keto- and hydroxyacids on photosynthesis [with summary in English]. Biokhimiia 22 no.1/2:391-398 Ja-F '57. (MLRA 10:7)

1. Institut fiziologii rasteniy im. K.A.Timiryazeva i Institut biokhimii im. A.N.Bakha Akademii nauk SSSR, Moskva.
(PHOTOSYNTHESIS) (PLANTS, EFFECT OF ACIDS ON)

CHAYLAKHYAN, Mikhail Khristoforovich; KURSANOV, A.L., akademik, otvetstvennyy red.; PASHKOVSKIY, Yu.A., red.izd-va; GOLUBEVA, V.A., tekhn.red.

[Fundamental laws of the ontogeny of higher plants] Osnovnye zakonomernosti ontogeneza vysshikh rastenii. Moskva, Izd-vo Akad. nauk SSSR, 1958. 77 p. (MIRA 11:6)
(Ontogeny (Botany))

RATNER, Yevsey Idelevich; KURSANOV, A.L., akademik, otv.red.;
SHAROVATOVA, I.B., red.izd-va; GUSEVA, A.P., tekhn.red.

[Plant nutrition and the activity of root systems]
Pitanie rastenii i zhiznedeiatel'nost' ikh kornevykh sistem. Moskva, Izd-vo Akad.nauk SSSR, 1958. 102 p.
(Timiriazevskie chteniia, no.16) (MIRA 12:6)
(Plants--Nutrition) (Roots (Botany))

[illegible] (Moscow)

The Metabolism of Roots and the Assimilation of Ammoniac by plants which are Deficient in Phosphorus,"

paper submitted for presentation at the 2nd Intl. Symposium Agrochemical, on the Pedological and Biochemical Aspects of Phosphoric Nutrition of Plants, Procchio, Isle of Elba, Italy, 8-13 Sep 1958.

KURSANOV, A. L., Mem., Acad. of Sci. USSR and I. I. TUMANOV, Corr. Mem., Acad. of Sci., USSR

"Investigations in Plant Physiology at the New Station of the Institute of Plant Physiology imeni K. A. Timiryazev, AS USSR, (equipped with an air-conditioning plant)."

scientific report presented at the Plenary Meeting of the Department of Biological Sciences, Acad. Sci. USSR, 16-17 June 1958,
(Vest. AN SSSR, 1958, No. 8, p. 57-66)

USSR / Plant Physiology. General Problems. I-1

Abs Jour: Ref Zhur-Biol., 1958, No 16, 72539.

Author : Kursanov, A. L.
Inst : AS USSR.
Title : Characteristic Features of the Development of Plant Physiology in the Soviet Union.

Orig Pub: Vestn. AN SSSR, 1958, No 1, 39-44.

Abstract: No abstract.

Card 1/1

KURSANOV, A. L. (Moscow)

"Das Wurzelsystem als Stoffwechselorgan."

paper presented at the Intl. Conference on Radioisotopes in Scientific Research in Paris, 19-20 Sept 1957;.

Angewandte Chemie, No. 3, 1958.

KURSANOV, A.L.

KURSANOV, A.L.; CHAYLAKHYAN, M.Kh.; PAVLINOVA, O.A.; TURKINA, M.V.; BROVCHENKO, M.I.

Translocation of sugars in grafted plants [with summary in English]. Fiziol. rast. 5 no.1:3-15 Ja-F '58. (MIRA 11:1)

1. Institut fiziologii rasteniy im. K.A. Timiryazeva AN SSSR, Moskva.
(Plants, Motion of fluids in) (Grafting) (Sugars)

AUTHOR: None Given 30-58-5-6/36

TITLE: Discussion on the Report of Activity (Preniya po otchetnomu dokladu)

PERIODICAL: Vestnik Akademii Nauk SSSR, 1958, Nr 5, pp 29-31 (USSR)

ABSTRACT: I. V. Tyurin, Member, Academy of Sciences, USSR devoted his speech to some results of activity of the Soil Institute imeni V.V. Dokuchayev. A. L. Kursanov, Member, Academy of Sciences, USSR spoke on the participation of the AS USSR in the international exhibition 1958 in Brussels. K. V. Ostrovityanov, Member, Academy of Sciences, USSR spoke on some success in the field of social sciences, but at the same time also pointed out a certain backwardness. V. V. Belousov, Corresponding Member, Academy of Sciences, USSR reported on the participation of Soviet scientists in the works of the Geophysical Year. V. I. Popkov, Corresponding Member, Academy of Sciences, USSR, emphasized the importance of the works of the Institute for Power Engineering imeni G. M. Krzhizhanovskiy. G.A. Chebotarev, Director of the Library of the AS USSR spoke on the participation of this collective in the establishment of a large academic library in No-

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vosibirsk. V. G. Bogorov, Director of the Institute for Oceanology, emphasized the importance of the oceanographic research works. V. V. Vinogradov, Member, Academy of Sciences, USSR, severely criticized the deficiencies in the development of social sciences in the AS USSR, and he emphasized the difficulty of publishing studies. V. A. Ambartsumyan, Member, Academy of Sciences, USSR reported on important problems of the development of Soviet astrophysics. V.A. Engel'gardt, Member, Academy of Sciences, USSR emphasized the unsatisfactory position of the institutes in the department for biological sciences. Ye. M. Zhukov, Corresponding Member, Academy of Sciences, USSR spoke on achievements, shortcomings and tasks of social sciences. A. I. Nazarov, Director of the Publisher of the AS USSR spoke on serious difficulties in the work of this publisher, where he also criticized the institutes which send to the press blown-up and unfinished material. V.F. Kuprevich, Corresponding Member, Academy of Sciences, USSR spoke on important tasks of biological science and emphasized the necessity of training young physicists and chemists for this work, in which he was supported by R.D. Obolentsev, Chairman of the Presidium of the Bashkiriya Branch, A. V. Sidorenko, Chairman of the Pre-

sidium of the Kola Branch spoke on the cooperation with the Murmansk Council of Economy, The report of activity of the AS USSR for the year 1957 wa approved, the assembly recommending to the Presidium of the Academy as well as to the Office of the Departments to consider the critical remarks and proposals in the precise determination of the plan for 1958.

1. Scientific research--USSR 2. Scientific reports--USSR

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KURSANOV, A. L. and ZAPROMETOV, M. N.

"A Study of the Formation and Transformations of Catechins in Tea Leaves by Means of $^{14}CO_2$." AtomPraxis, No. 7-8, Jul/Aug 58. (Germany)

Inst. Plant Physiology, Acad. Sci. USSR, Moscow.

Kursanov, A.L.

AUTHOR: Kursanov, A. L., Academician 30-1-6/39

TITLE: Characteristic Features of Development of the Plant Physiology in the Soviet Union (Kharakternyye osobennosti razvitiya fiziologii rasteniy v sovetskom soyuze)

PERIODICAL: Vestnik AN SSSR, 1958, Vol. 28, Nr 1, pp. 39-44 (USSR)

ABSTRACT: During the first years after the October Revolution only two small laboratories existed in Moscow in which investigations of plantphysiology were carried out: At Moscow State University, under the supervision of F. N. Krasheninnikov, and at the Agricultural Petrovskiy-Academy under D. N. Pryanishnikov. At that time fewer experiments were carried out but people read more, thought about and discussed interesting problems, and several classical works dealing with this field came into being. Today planned work is required and this work must also be carried out rapidly. First there were only two official periodicals of the AN "Izvestiya" and "Doklady", so that many works were printed in foreign periodicals (particularly in Germany). As an essential innovation of that time the increased interest displayed by scientists for ecological

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physiology must be looked upon, and the works by N. A. Maksimov, S.P. Kostychev, L. A. Ivanov, and Ye. F. Votchal must be looked upon as the works of pioneers in this field. Valuable work was carried out at the institutes and test stations of plant physiology on the physiology of tobacco, the beetroot, the cotton plant, of wheat, rice, tea, as well as of plants containing caoutchouc and others. The author considers it of importance that every effort be made in order that plant physiology be developed at local stations and that, first of all, the physiological laboratories of testing stations be restored. Steps have also already been undertaken in order to provide the easily transportable apparatus: Radioactive isotopes "Warburg" devices, as well as various devices for measuring light are used. The Institute for Plant Physiology imeni K. A. Timiryazev will be provided with a phytotron, an artificial climate conditioning station, where temperature, moisture content, and illumination can be exactly regulated. Quite new tendencies have developed, such as the theory of hormone and physiologically active synthetic substances by the work carried out by N. G. Kholodny, V. A.

Characteristic Features of Development of the Plant Physiology in the Soviet Union 30-1-6/32

Maksimov, and S. S. Metkin, in which case physiologists and chemists work together. Furthermore, the tasks are mentioned which must be dealt with and achieved in the near future. The definite explanation of breathing- and photosynthetic cycles in a chemical as well as in an energetic respect will make it possible, already within the next ten years, to discover the close connections existing between these two great tendencies of biological metabolism. Also the physiology of whole plants is intended to be further developed in order to be able to control the nutrition, the growth, and the development of the plants. Also new ways for the research of the physiology of the development and heritage are to be found. Also the problem of using new physiologically active organic fertilizers ought to be made the object of further research.

AVAILABLE: Library of Congress

Card 3/3 1. Botany-Study and teaching 2. Ecology

RATNER, Yevsey Idelevich; BURKIN, Ivan Alekseyevich; KURSANOV, A.L., akademik, otv.red.; ANTONYUK, L.D., red.izd-va; UL'YANOVA, O.G., tekhn.red.

[Molybdenum and crop yields] Molibden i urozhai. Moskva, Izd-vo Akad.nauk SSSR, 1959. 39 p. (MIRA 12:12)
(Plants, Effect of molybdenum on)

KURSANOV, A.L., akademik, red.; NICHIPOROVICH, A.A., prof., red.; KRASNOVSKIY, A.A., prof., red.; RUBIN, B.A., prof., red.; BOYCHENKO, Ye.A., doktor biol.nauk, red.; OSIPOVA, O.P., kand.biol.nauk, red.; KLESHNIN, A.F., red.izd-va; POLYAKOVA, T.V., tekhn.red.

[Problems of photosynthesis; reports at the Second All-Union Conference on Photosynthesis, Moscow, Jan.21-26, 1957] Problemy fotosinteza; doklady na II Vsesoiuznoi konferentsii po fotosintezu, Moskva, 21-26 ianvaria 1957 g. Moskva, 1959. 747 p. (MIRA 12:12)

1. Akademiya nauk SSSR. Otdeleniye biologicheskikh nauk.
(PHOTOSYNTHESIS--CONGRESSES)

22(1) SOV/30-59-3-7/61

AUTHOR: Kursanov, A.L., Academician

TITLE: Some Problems of the Training of Young Scientists (Nekotoryye voprosy formirovaniya molodykh uchenykh)

PERIODICAL: Vestnik Akademii nauk SSSR, 1959, Nr 3, pp 36-44 (USSR)

ABSTRACT: The author of this paper reports on his experience as the head of a laboratory in the training of young scientists. Therein he distinguishes between the large number of scientific researchers who have been specially trained and scientists with their own initiative, who are selected from among them, in a proportion of 3-30%. The universities are entrusted with the training of scientific researchers, while it is the task of scientific research institutes to select independent scientists from among them. The age of 27-28 years is considered to be most favorable for young scientists, who must combine scientific initiative with thorough knowledge of the chosen field. Modern scientists must keep pace with the progress of science. Furthermore, he must be familiar with modern working methods, instruments, and also the methodology of Marxism-Leninism. He must keep contact also with experts of other fields, should be versed in experimental work, study

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Some Problems of the Training of Young Scientists

scientific literature and publish his own works. In conclusion the author emphasizes that a true scientist usually is moderate in judging his own knowledge and success and respects the views of other scientists. There is 1 reference.

VARTAPETYAN, B.B.; KURSANOV, A.L.

Studying water metabolism of plants by using water containing heavy oxygen (H_2O^{18}). Fiziol.rast. 6 no.2:144-150 Mr-Ap '59.
(MIRA 12:5)

1. K.A.Timiryazev, Institut of Plant Physiology, U.S.S.R. Academy of Sciences, Moscow.
(Plants--Absorption of water)

KURSANOV, A.L.; PAVLINOVA, O.A.; AFANAS'YEVA, T.P.

Glycolytic enzymes in conducting tissues of the sugar beet.
Fiziol.rast. 6 no.3:286-295 My-Je '59. (MIRA 12:8)

1. K.A.Timiryazev Institut of Plant Physiology, The U.S.S.R. Academy of Sciences, Moscow.
(Sugar beets) (Glycolysis) (Plant cells and tissues)

KURSANOV, A.L.; BROVCHENKO, M.I.; PARIYSKAYA, A.N.

Passage of assimilates into the conducting tissues of rhubarb leaves (Rheum rhaponticum L.). Fiziol. rast. 6 no.5:527-536 S-O '59. (MIRA 13:2)

1.K.A. Timiryazev Institute of Plant Physiology, U.S.S.R. Academy of Sciences, Moscow.

(Plants, Motion of fluids on)

KURSANOV, Andrey L'vovich; SHAROVATOVA, I.B., red.izd-va; UL'YANOVA, O.G., tekhn.red.

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(Plant physiology)

HUBIN, Boris Anisimovich; KURSANOV, A.L., akademik, otv.red.; SHAROVATOVA, I.B., red.izd-va; DOROKHINA, A.N., tekhn.red.

[Respiration and its role in the immunity of plants; reported at the 12th annual Timiriazev Reading, May 29, 1958] Dykhanie i ego rol' v immunitete rastenii; dolozheno na deviatnadtsatom ezhegodnom Timiriazevskom chtenii 29 maia 1958 g. Moskva, Izd-vo Akad. nauk SSSR, 1960. 65 p. (Timiriazevskie chteniia, no.19). (MIRA 13:7)

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Primary inclusion of phosphates in root metabolism.
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1. K.A. Timiriazev Institute of Plant Physiology, U.S.S.R. Academy of Sciences, Moscow.
(Plants--Assimilation) (Phosphorus metabolism)

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(Great Britain—Plant physiology—Research)

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